

CLAIMS:

1. A unitary spring contact probe comprising a resilient spring section, a
5 plunger section extending from a distal end of the resilient spring section for
contacting a semiconductor device under test and a stopper projecting from
the plunger section substantially transversely to an axial direction of the
plunger section.
- 10 2. The spring contact probe as claimed in claim 1, wherein the probe is
formed from a wire-like material.
3. The spring contact probe as claimed in claim 1, including a second
15 plunger section at another distal end of the resilient spring section that is
opposite the plunger section.
4. The spring contact probe as claimed in claim 3, wherein the second
20 plunger section extends out of the spring section in a substantially straight line
in the same general axial direction as the spring section.
5. The spring contact probe as claimed in claim 4, wherein the second
plunger section extends substantially parallel to the plunger section when the
spring section is uncompressed.
- 25 6. The spring contact probe as claimed in claim 3, wherein the plunger
section and the second plunger section lie on opposite sides of an axial plane
passing perpendicularly through a center of the spring section.
7. The spring contact probe as claimed in claim 3, wherein the plunger
30 section and the second plunger section are fashioned from a single strip of
material.

8. The spring contact probe as claimed in claim 3, including a second stopper projecting from the second plunger section substantially transversely to an axial direction of the second plunger section.
- 5 9. The spring contact probe as claimed in claim 1, wherein the stopper is configured with a sufficiently large surface area so as to act as a thermal device for facilitating the dissipation of heat from the spring contact probe.
- 10 10. The spring contact probe as claimed in claim 1, wherein the spring section, plunger section and stopper are fashioned from a single strip of material.
11. The spring contact probe as claimed in claim 1, wherein the spring contact probe is made from copper or beryllium copper.
- 15 12. The spring contact probe as claimed in claim 11, wherein the spring contact probe is plated with a material selected from the group consisting of nickel, palladium, hard gold and rhodium.
- 20 13. An apparatus for testing a semiconductor device comprising:
a plurality of unitary spring contact probes each comprising a resilient spring section, a plunger section extending from a distal end of the resilient spring section for contacting a semiconductor device under test and a stopper projecting from the plunger section substantially transversely to an axial
25 direction of the plunger section;
one or more insulative guiding holders for mounting the spring contact probes; and
a retainer mechanism coupled to the stoppers of the spring contact probes for securing the spring contact probes to the insulative guiding
30 holders.
14. The apparatus as claimed in claim 13, wherein the retainer mechanism comprises a retainer plate including holes that allow the plunger sections of

the spring contact probes to protrude from a surface of the retainer plate for contacting the semiconductor device.

15. The apparatus as claimed in claim 13, including cavities in the
5 insulative guiding holders for introducing purging air onto the spring contact probes.

16. The apparatus as claimed in claim 13, including an electrical circuit
10 contacted by an end of the spring contact probe that is opposite the plunger section, wherein the electrical circuit is coupled to signal processing resources of the apparatus.

17. The apparatus as claimed in claim 16, including a second plunger
15 section at said end of the resilient spring section that is opposite the plunger section for contacting the electrical circuit.

18. The apparatus as claimed in claim 17, including a second retaining
20 mechanism coupled to another stopper of the spring contact probes projecting from the second plunger section for securing the spring contact probes to the insulative guiding holders

19. The apparatus as claimed in claim 18, wherein the second retaining
25 mechanism comprises a retainer plate including holes that allow the second plunger section of the spring contact probe to protrude from a surface of the second retainer plate for contacting the electrical circuit.